

Claims

1. An ink-jet recording device comprising:

a substantially rectangular parallelepiped casing whose vertical length is shorter
5 than lateral and anteroposterior lengths thereof;

an ink-jet recording head provided inside of the casing;

a tray which is arranged under the recording head inside of the casing and
supports a recording medium on which recording is performed by the recording head;

a moving mechanism moving the tray in the casing anteroposterior direction so
10 that the tray passes through a position under the recording head; and

a power supply substrate arranged above the tray inside of the casing.

2. The ink-jet recording device of Claim 1 further comprising:

a supply cassette which is arranged under the tray inside of the casing and houses
15 a recording medium different from the recording medium supported by the tray; and

a conveying mechanism conveying the recording medium housed in the supply
cassette to a recording position where the recording is performed by the recording head.

3. The ink-jet recording device of Claim 1 further comprising:

20 a carriage shaft extending in a casing lateral direction inside of the casing;

a chassis supporting both ends of the carriage shaft;

a carriage which holds the recording head, reciprocates along the carriage shaft in
the casing lateral direction, and has a home position at any one of the ends of the carriage
shaft; and

25 a control substrate provided vertically in a direction perpendicular to the carriage

shaft at a position outside of the chassis on the opposite side of the home position in the casing lateral direction inside of the casing.

4. The ink-jet recording device of Claim 1, wherein:

5 a protruded part which is protruded rearward is formed in a back surface of the casing; and

external connection terminals are provided in a part other than the protruded part in the back surface of the casing.

10 5. The ink-jet recording device of Claim 3, wherein:

a protruded part which is protruded rearward is formed in a back surface of the casing; and

external connection terminal are provided in a part other than the protruded part in the back surface of the casing.

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6. The ink-jet recording device of Claim 1 further comprising a fan sending air to the recording medium after recording onto the recording medium supported by the tray.

7. The ink-jet recording device of Claim 6 further comprising a heat source
20 heating the air sent by the fan.

8. The ink-jet recording device of Claim 6, wherein the fan is constructed by a cooling fan of the power supply substrate.

25 9. The ink-jet recording device of Claim 3, wherein:

the control substrate has a plurality of external connection terminals in line vertically; and

in the casing, an opening for connection to the external connection terminals is formed.

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10. The ink-jet recording device of Claim 9, wherein:

the plurality of external connection terminals are provided in line vertically in an end part on the casing front side of the control substrate and an end part on the casing rear side thereof, respectively; and

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in the front surface and the back surface of the casing, openings for connection to the external connection terminals in the end part on the casing front side of the control substrate and in the end part on the casing rear side thereof are formed, respectively.

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11. The ink-jet recording device of Claim 3, wherein the control substrate has a plurality of internal connection terminals arranged in an upper part of the control substrate.

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12. The ink-jet recording device of Claim 11, wherein the internal connection terminals are provided so as to be oriented inward in the casing lateral direction in an inner surface in the casing lateral direction of the control substrate.

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13. The ink-jet recording device of Claim 4, wherein:

the supply cassette is a cassette whose length in the casing anteroposterior direction is longer than an anteroposterior length of a casing side surface, and which extends rearward beyond a rear end of the casing side surface; and

the protruded part of the casing covers the rear end part of the supply cassette

extending rearward beyond the rear end of the casing side surface.

14. An ink-jet recording device comprising:

a substantially rectangular parallelepiped casing whose vertical length is shorter
5 than lateral and anteroposterior lengths thereof;

a carriage shaft extending in the casing lateral direction inside of the casing;

a chassis supporting both ends of the carriage shaft;

a carriage which reciprocates along the carriage shaft in the casing lateral
direction and has a home position at any one of the ends of the carriage shaft;

10 an ink-jet recording head attached to the carriage; and

a control substrate provided vertically in a direction perpendicular to the carriage
shaft at a position outside of the chassis on the opposite side of the home position in the
casing lateral direction inside of the casing.

15 15. The ink-jet recording device of Claim 14, wherein:

a protruded part which is protruded rearward is formed in a back surface of the
casing; and

external connection terminals are provided in a part other than the protruded part
in the back surface of the casing.

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16. The ink-jet recording device of Claim 14, wherein:

the control substrate has a plurality of external connection terminals in line
vertically; and

in the casing, an opening for connection to the external connection terminals is
25 formed.

17. The ink-jet recording device of Claim 16, wherein:

the plurality of external connection terminals are provided in line vertically in an end part on the casing front side of the control substrate and an end part on the casing rear side thereof, respectively; and

in the front surface and the back surface of the casing, openings for connection to the external connection terminals in the end part on the casing front side of the control substrate and in the end part on the casing rear side thereof are formed, respectively.

18. The ink-jet recording device of Claim 14, wherein the control substrate has a plurality of internal connection terminals arranged in an upper part of the control substrate.

19. The ink-jet recording device of Claim 18, wherein the internal connection terminals are provided so as to be oriented inward in the casing lateral direction in an inner surface in the casing lateral direction of the control substrate.

20. The ink-jet recording device of Claim 15, wherein:

the supply cassette is a cassette whose length in the casing anteroposterior direction is longer than an anteroposterior length of a casing side surface, and which extends rearward beyond a rear end of the casing side surface; and

the protruded part of the casing covers the rear end part of the supply cassette extending rearward beyond the rear end of the casing side surface.

21. An ink-jet recording device comprising:

a substantially rectangular parallelepiped casing whose vertical length is shorter

than lateral and anteroposterior lengths thereof;

an ink-jet recording head provided inside of the casing;

a supply cassette which is arranged under the recording head inside of the casing and houses a recording medium on which recording is performed by the recording head;

5 and

a conveying mechanism conveying the recording medium housed in the supply cassette to a recording position where the recording is performed by the recording head,

wherein a protruded part which is protruded rearward is formed in a back surface of the casing; and

10 external connection terminals are provided in a part other than the protruded part in the back surface of the casing.

22. The ink-jet recording device of Claim 21, wherein:

the supply cassette is a cassette whose length in the casing anteroposterior
15 direction is longer than an anteroposterior length of a casing side surface, and which extends rearward beyond a rear end of the casing side surface; and

the protruded part of the casing covers the rear end part of the supply cassette extending rearward beyond the rear end of the casing side surface.

20 23. An ink-jet recording device comprising:

a substantially rectangular parallelepiped casing whose vertical length is shorter than lateral and anteroposterior lengths thereof;

a carriage shaft extending in the casing lateral direction inside of the casing;

a carriage which reciprocates along the carriage shaft in the casing lateral
25 direction;

an ink-jet recording head attached to the carriage;

a conveying mechanism conveying a recording medium in a direction perpendicular to the carriage shaft during recording operation onto the recording medium by the recording head to lead the recording medium to a recording position where the recording is performed by the recording head;

a purge unit which is provided on one end side of the carriage shaft and purges ink of the recording head; and

a first ink collector which has an ink container set on the lateral side of a conveying route of the recording medium inside of the casing and collects the ink after purge of the purge unit in the ink container.

24. The ink-jet recording device of Claim 23, wherein the ink container of the first ink collector extends from a lower position than a recording surface of the recording medium located at the recording position to a higher position than the recording surface.

25. The ink-jet recording device of Claim 23 further comprising:

a platen which is opposed to the recording head and supports the recording medium located at the recording position;

an absorbing body which is provided in the platen and absorbs excessive ink not landed on the recording medium out of ink discharged from the recording head; and

a second ink collector which has an ink container and collects the ink absorbed in the absorbing body inside of the ink container.

26. The ink-jet recording device of Claim 25, wherein both the ink containers of the first and second ink collectors are arranged on one side and the other side in the casing

lateral direction, respectively.

27. The ink-jet recording device of Claim 23 further comprising:

5 a platen which is opposed to the recording head and supports the recording medium located at the recording position;

an absorbing body which is provided in the platen and absorbs excessive ink not landed on the recording medium out of ink discharged from the recording head; and

an ink flow path connecting the platen and the purge unit,

10 wherein the ink absorbed in the absorbing body is sucked and removed in the purge unit through the ink flow path.

28. The ink-jet recording device of Claim 23, wherein an absorbing body absorbing the ink is housed inside of the ink container of the first ink collector.

15 29. The ink-jet recording device of Claim 28 wherein the absorbing body inside of the ink container of the first ink collector is housed replaceably with respect to the ink container.

20 30. The ink-jet recording device of Claim 28, wherein the absorbing body inside of the ink container of the first ink collector is constructed by a plurality of sheet absorbers layered in the ink container.

25 31. The ink-jet recording device of Claim 28 further comprising an ink flow path leading the ink after purge of the purge unit to an upper end part of the ink container of the first ink collector.

32. The ink-jet recording device of Claim 28 further comprising an ink flow path leading the ink after purge of the purge unit to a lower end part of the ink container of the first ink collector.

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33. The ink-jet recording device of Claim 28 further comprising an ink flow path leading the ink after purge of the purge unit to an intermediate part in the vertical direction of the ink container of the first ink collector.

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34. The ink-jet recording device of Claim 28, wherein:

the ink container of the first ink collector extends from a lower position than a recording surface of the recording medium located at the recording position to a higher position than the recording surface;

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the ink-jet recording device further comprises an ink flow path leading the ink after purge of the purge unit to the ink container of the first ink collector; and

a connection point of the ink flow path with respect to the ink container of the first ink collector is located between the recording surface of the recording medium located at the recording position and a lowest part of the ink container.

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35. The ink-jet recording device of Claim 28 further comprising an ink flow path leading the ink after purge of the purge unit to the ink container of the first ink collector,

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wherein a connection point of the ink flow path with respect to the ink container of the first ink collector is located at a lower level than a connection point of the ink flow path with respect to the purge unit.

36. The ink-jet recording device of Claim 23 wherein the first ink collector is constructed detachably with respect to the casing.

5 37. The ink-jet recording device of Claim 36, wherein an entrance for taking out and setting the first ink collector with respect to the inside of the casing is formed in an upper surface of the casing.

10 38. The ink-jet recording device of Claim 37, wherein a lid opening and closing the entrance is provided in the upper surface of the casing.

15 39. The ink-jet recording device of Claim 23, wherein the first ink collector has detecting means for detecting the amount of ink inside of the ink container of the first ink collector.

 40. The ink-jet recording device of Claim 39, wherein the detecting means is constructed by an electric sensor having a pair of electrodes and detecting the amount of ink based on electric resistance between the pair of electrodes.

20 41. The ink-jet recording device of Claim 23, wherein the first ink collector has storage means for storing the amount of ink collected in the ink container of the first ink collector.

25 42. The ink-jet recording device of Claim 23, wherein the ink container of the first ink collector is arranged on the casing rear side of the purge unit.